

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

## UNITED STATES PATENT AND TRADEMARK OFFICE

### BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte JOHN A. HUMMEL and HAROLD J. FRABONI



Appeal No. 2006-1653  
Application No. 09/840,434

ON BRIEF

Before CRAWFORD, NAPPI, and FETTING, Administrative Patent Judges.

CRAWFORD, Administrative Patent Judge.

### DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 9, which are all of the claims pending in this application.

The appellants' invention relates to silent chain and sprocket systems (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

### THE PRIOR ART

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Aydelott	270,723	Jan. 16, 1883
Ichikawa et al. (Ichikawa)	5,989,140	Nov. 23, 1999

### THE REJECTIONS

Claims 1 to 6 and 9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ichikawa.

Claims 7 and 8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ichikawa in view of Aydelott.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the final rejection (mailed January 13, 2004) and the answer (mailed November 3, 2004) for the examiner's complete reasoning in support of the rejections, and to the brief (filed August 23, 2004) and reply brief (filed December 30, 2004) for the appellants' arguments thereagainst.

### OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

We turn first to the examiner's rejection of claims 1 to 6 and 9 under 35 U.S.C. § 102(b) as being anticipated by Ichikawa. We initially note that to support a rejection of a claim under 35 U.S.C. § 102(b), it must be shown that each element of the claim is found, either expressly described or under principles of inherency, in a single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984). The examiner's finding regarding this rejection can be found on page 2 of the final rejection.

In regard to the recitation in claim 1 of a surface on the link which overlies and contacts the low profile sprocket protrusions along at least a majority of the length of the surface for driving contact with the low profile protrusions, the examiner states:

The Ichikawa references meets the limitations of the claims, because the inner surface of the chain that contacts the sprocket surface contacts more than half of the contact surface. In column 4 lines 20 to 33 Ichikawa discloses that the low profile teeth of the sprocket 6" abut and support the flat faces F." Figure 1 shows the low profile protrusion contacting more than half the contact surface F of the chain [answer at page 3].

We will not sustain this rejection as directed to claim 1 because, in our view, the flat faces F do not have a driving contact with the protrusions 6A, as required by claim 1. We agree with the appellants that:

The chain of Ichikawa is driven by the guide plates 7 and the articular train plates 2A that have sub-teeth that engage the teeth (protrusions) of the sprocket. Ichikawa col. 4 lines 1-5. The surface F of plate 3 has no such sub-teeth and

does not engage the sprocket for driving contact [reply brief at page 4].

We will also not sustain this rejection as it relates to claims 2 to 4 as these claims by virtue of their dependence on claim 1 require that the low profile protrusions on the sprocket and the surface on the link contact to drive the chain.

Claim 5 does not recite that a low profile sprocket protrusion contacts a surface on the link for driving the chain but rather:

... the link plates defining a back-side surface that contacts a portion of the back-side sprocket along at least a majority of a distance substantially equal to a length of the link plates along the chain direction.

The surface F does contact a portion of the back-side sprocket (see Figures 1 and 2) and this contact is along at least a majority of the distance substantially equal to a length of the link plates. We note that even the appellants admit that the surface F meets the length requirement of claim 1 (see reply brief at pages 4 to 5).

In view of the foregoing, we will sustain the examiner's rejection as it is directed to claim 5. We will also sustain the examiner's rejection as it is directed to claims 6 and 9, which are dependent on claim 6, because the appellants have not argued the separate patentability of these claims. See In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987).

We turn next to the examiner's rejection of claims 7 and 8 under 35 U.S.C. § 103 as being unpatentable over Ichikawa in view of Aydelott. The examiner's findings and

conclusions regarding this rejection can be found on page 3 of the final rejection and page 4 of the answer.

The appellants argue that the toothed surfaces of Aydelott are not generally flat.

We do not find this argument persuasive because the back side surface of both the Ichikawa sprocket surface (see 6A in Figure 1) and contact surfaces of the sprocket are flat at the teeth in Adelott.

Appellants also argue that Aydelott does not disclose a link plates forming interleaved rows as and two teeth on one side of the chain and a back side surface that engages a sprocket required by claims 7 and 8.

We do not find this argument persuasive because the examiner relies on Ichikawa for teaching interleaved link rows that engage a sprocket. Moreover, “[n]on-obviousness cannot be established by attacking the references individually where the rejection is based upon the teachings of a combination of references.” In re Merck & Co., Inc., 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986).

Appellants also argue that Aydelott does not describe a sprocket with flat surfaces that meet to form low profile protrusions as required by claim 6 from which claims 7 and 8 depend.

We do not find this argument persuasive because Aydelott does disclose low profile protrusions on the sprocket that are formed by two flat surfaces (see the portion of the sprocket above A in Figure 3).

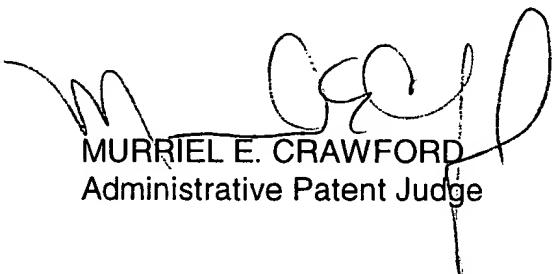
In view of the foregoing, we will sustain the examiner's rejection of claims 7 and 8.

In summary:

The examiner's rejection of claims 1 to 4 is not sustained. The examiner's rejection of claims 5 through 9 is sustained.

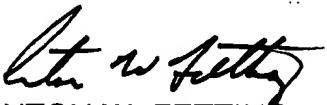
No time period for taking any subsequent action in connection with this appeal  
may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

  
MURRIEL E. CRAWFORD  
Administrative Patent Judge

  
ROBERT E. NAPPI  
Administrative Patent Judge

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